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Abstract

Access to water in Sub Saharan Africa (SSA) continues to be a challenge to the extent that there are more people without access to water in 2015 than in 1990. This inidcates that current approaches to water provision has been ineffective. Governments have failed to provide a structure, mechanisms or aproaches that guarantees water for ALL. Resulting in a vacuum which has been 'filled' by a number of social actors (NGOs, Faith Based Organisations, Donors).

This paper examines the social actors involved in water access and provision in Malawi and Zambia analysing the existing methods and approaches used by them in the sector. It seeks increase understanding of the contributions and the nature of influence of each social actor group. This was achieved by collecting data on social actors through a combination of methods; focus group discussions, semi-structured interviews and workshops. Social actor analyses of the data shaped the findings.

The findings indicate that water provision is multifaceted requiring improved coordination and cooperation among social actors to streamline and focus on the provsion of for ALL. It draws attention to the need for Governments to take a leading role by facilitating long term investment in the sector and promoting initiatives which incorporate the right to water access. It concludes that in order to achieve universal access to water, a new perception of rights and responsibilities is vital in communities, donors, NGOs and the public sector as one step towards reducing the number of people without water in the future.

Keywords

Social actors, water access, human rights, community

1. Introduction

Water has acquired enormous relevance in relation to the survival of all living systems on earth, to the extent that 2013 was declared the "International Year of Water Cooperation" by the United Nations (UN-Water, 2013). On World Water Day 2010, the UN General Secretary declared that more people die from unsafe water than from all forms of violence, including war. He also postulated the possibility of this important resource, that has been described by some as gold of the future, becoming a source of wars between nations (UN, 2010).

Water in all its forms has been the basis of civilizations and settlement patterns (Priscoli, 1999). The quantity and quality of access have influenced and continue to influence life outcomes in various human societies (Uguru, 2014). These life outcomes are sustained by the various forms in which water is channelled through agriculture, industry and domestic uses (Rosegrant et al., 2002). In particular, in order to guarantee human survival, access to water for agricultural and domestic purposes is vital.

Unfortuntately, water has become a source of profit as opposed to being treated as a fundamental human right (UN OHCHR, 2010). Some authors have alerted against the corporate takeover of this essential living system. This has occurred through unchecked privatisation and and other forms of public private partnerships, which in many cases reduces the ability of the poor to access safe water (Barlow and Clarke, 2004). The UN MDG for water was to halve by 2015, the proportion of the world population without sustainable access to safe drinking water. Water access in this paper is defined as having access to adequate water supply both in quantity and quality for drinking purposes at reasonable distance to users or households' dwelling. Despite the achievement of this goal, about 663 million people in developing regions are without access, and the right to water for all purposes is denied to approximately 3.5 billion people (IDA, 2010; JMP, 2014, 2015).

Water provision in developing countries is not structured or streamlined to the same extent as it is in the developed countries, where the right to water is guaranteed to all citizens (Shah, 2010). As a result, in the developing world, where this degree of structure does not exist, water provision depends on the participation of a wide range of stakeholders described in this paper as "social actors". In this paper, social actors reffers to human entities or individuals with direct or indirect influence in the system under consideration. Social actors range from government, private sector and NGOs to water users and community groups (WPP, 2010).

This paper focuses on the roles of social actors involved in water provision in Malawi and Zambia. An analysis of their involvement and the existing methods and approaches used by these social actors in water resource management are examined.

2. Methodology

Many social actors are involved in the provision of water in communities in so a key objectives of this project was to undertake a comprehensive analysis of the social actors to acquire an in-depth understanding of their roles in the water sector both Malawi and Zambia and with a view to providing some recommendations for improved practice. .

The underlying consideration of the choice of methodology applied to the study reported in this paper was based on the data needed to fulfil this objective. The data collection methods used in the study as aimed at generating data capable of elucidating the many dimensions of the roles of the social actors in water provision in both countries. Data on social actors were collected using i) archival literature ii) field observations and iii) workshops. Archival research included a review of published literature from a range of sources, such as government reports, annual reports of NGOs, grey literature private sector and other organisations. Field observations allowed the project staff to gain first-hand experience of practices of social actors across three regions and selected districts in Malawi (Karonga in the North; Salima in the Centre; and Nsanje in the South) and two agro-ecological zones in Zambia (Luapa, Kaoma and Kazungula districts in Zone I; Siavonga, Chirundu and Chongwe districts in Zone II).

Luapa, Kaoma, Kazungula

Specifically the fieldwork allowed for establishing the level of water coverage, relationships between and among social actors, opportunities and challenges relating to access and delivery of water services.

A series of workshops allowed opportunity for social actors engaged in the water sector to come together and discuss challenges, constraints and opportunities on relation to the provision of water.

Social actor analysis was carried out based on the data collected from archival research, field observations and feedback from workshops. These are thematically presented in this paper.

3. Results and Discussion

3.1 Malawi

Many social actors are involved in the water sector in Malawi, grouped in four major categories. A first category consists of those who are directly involved in the provision of water services to communities, comprised of a mixture of social actors. A second category includes those who are not engaged directly in the provision of water services but support both local and international NGOs, CSOs, FBOs and government agencies to supply water to communities. The major organisations in this category are Water Aid, UNICEF, DFID and Irish Aid. A third category consists of organisations engaged in the provision of water services to communities in the context of emergencies only; Save the Children International is the key organisation in this category. A final category consists of organisations that advocate for communities' right to potable water while linking these communities to potential service providers. The only organisations in this category encountered during the fieldwork were the Catholic Commission for Justice and Peace (CCJP) and the Catholic Development Commission in Malawi (CADECOM).

3.1.1 Structure and nature of the relationships of the various social actors

The government, through the district and city councils, provides or identifies land for construction of water points in communities. The District Executive Committee (DEC) at the district council is the coordination point for water point installation. In principle, the DEC should receive information from water providers and advise on the water situation of the district. The primary role of district and city council officials is to provide technical support and quality control to non-state actors working in the water sector. The officials also help non-state providers by delivering training to communities on how to manage water facilities in order to guarantee the sustainability of their interventions, which also includes facilitating the work of Water Users Associations (WUAs). All water sector organisations are required to work closely with the forestry department to foster conservation of their catchment areas in order to protect water resources.

In general, the working relationship among the non-state organisations is reported as positive, evidenced in cases of mutual cooperation. For example, the Red Cross has a close working relationship with World Vision in Southern Malawi and both organisations collaborate with each other's activities.

However, in some cases, there are conflicts among social actors because of different approaches. For example, Inter-Aid provides all the materials when drilling boreholes, while Concern Universal's approach requires that communities provide locally available materials which leads to confusion among community members. The apparent competitive working relationship between non-state organisations was attributed to them wanting to achieve immediate demonstrable results to satisfy their funders.

In addition to the challenges which have emerged due to the involvement and lack of coordination among the many social actors in the water sector, a number of other issues also exist and are discussed in the subsequent section. In order to attend to people's demand for water, social actors have encountered some constraining factors related to environmental and governance issues.

3.1.2 Environmental Challenges

Topography of Localities

A locality's topography can either be enabling or constraining in the context of water provision services. It is easier to sink boreholes in areas which are flat, as opposed to rolling topography (Henriksen, 1995). In addition, these rolling topography areas often do not have good road networks, which make accessibility a challenge. A member of Blantyre City Council District Community Development Office noted that

" *…Blantyre faces serious water problems because it is situated on higher ground and its water is pumped from a lower altitude which requires a great deal of electricity amounting to as much as MK 80 million [about £100,000 GB] per month"(Member, Blantyre City Council).*

This is extremely expensive for the Blantyre Water Board to the extent that it becomes unsustainable.

Erratic Climatic Patterns

Three water providers, the Development and Sanitation Trust, Plan Malawi and Water Aid alluded to climate variability as one of the pressing challenges in their endeavours to provide water on a sustainable basis. They argue that erratic climatic patterns have led to ground water variability. This challenge is particularly significant as almost 70% of the population in

the country depends on ground water for drinking, yet its availability is becoming highly unpredictable. A participant representing Mzuzu City Council noted that

"erratic climatic patterns are leading to water tables getting lower and lower to the extent that it is almost impossible to find water at the recommended depth of drilling a borehole at 45m; instead we have to dig as deep as 65m" (Mzuzu, City Council Ward Councillor).

Furthermore, disasters associated with climate change, especially floods, are affecting the provision of safe water by destroying infrastructure and increasing demand for more water treatment chemicals. The incidence and scale of natural disasters is reportedly exacerbated by rampant environmental degradation particularly through deforestation (Wines, 2005; Oxfam, 2012). If the current combination of natural disasters and deforestation is not challenged, water availability and access will become even more critical.

Technological Limitations

The NGOs Development and Sanitation Trust and Plan Malawi felt that the country had not been innovative enough in terms of experimenting with alternative approaches to water provisioning, especially in rural areas. The use of boreholes as a dominant modality of providing water is considered to be unsustainable even more so in the wake of rapid population increases and erratic climatic patterns (Perkins, 2008). The alternative suggested is the water reticulation system which not only helps to minimize the depletion of natural resources but also ensures wider coverage, superior to that of boreholes. The major challenge is that water reticulation systems and other alternative water provisioning technologies require heavy initial capital investment (DWAF, 2009).

3.1.3 Governance Challenges

Politicization of Water Services

Politicization of decisions on water distribution is widespread and negatively affects the delivery of water services. In some cases, politicians block development initiatives that have not been channelled through them, fearing that their political support may be under threat if they are not personally seen as the champions of those initiatives (Gilbert, 2012). MPs and elected councillors also want to dictate where water points are sited. Representatives from two NGOs noted that *"often times politicians push for water facilities to be drilled in areas*

*where they command a large following [irrespective of their level of need]" (*Mary's Mission Shallow Wells; Water for People).

Furthermore, in their efforts to build political capital for themselves, most politicians promise provision of water for free without taking into account how this promise would be fulfilled. This also entrenches a culture of hand-outs to the extent that, in several cases, communities refuse to make contributions to sustain water facilities. One water provider argued that politicization of water is also prevalent in urban areas and *"people feel that water is free hence hesitate to make quite modest contributions towards sustaining water facilities" (*Mudi Water Users' Association).

The Role of Traditional Leaders

Similarly to politicians, traditional leaders tend to interfere with the location of water facilities by taking advantage of their influence in society, which often undermines equity to water access. Traditional leaders tend to locate water facilities either within their compounds or close to their compounds instead of strategically locating water points that ensure easy access to water for all the people in the villages and communities.

Limited Funding for Water Services

The demand for water in both urban and rural areas outweighs supply. Blantyre Ministry of Agriculture, Irrigation and Water Development argued that the service they offer does not meet the demand because initial investments require substantial capital which they have difficulty in mobilising.

Since the recent global financial crisis in 2008, funds from donors have not been as dependable as they used to be. On other occasions funding comes late, often with strings attached on how it should be used, regardless of whether it is appropriate or not. According to the representatives from World Vision and the Catholic Commission for Justice and Peace, *"funding challenges in the water sector have become more pronounced following the projection that Malawi is on course to meet the MDG target for water access".*

Coordination among Social Actors

The current policy is that all water providers at district level should be signposted by the local council to where their service is needed most and must meet the requisite technical standards

in their work. However, it was reported by a participant representing Blantyre City Council that *"some NGOs, once granted permission, tend to work in isolation" (Member, Blantyre City Council).* In Mzuzu, water providers recognized the seriousness of the problem of isolation and have partnered with the NGO Plan International to organize seminars for the different organisations in the water sector to ensure unity of purpose and eliminate unnecessary duplication of efforts.

The widely shared view is that social actors *"are not doing enough reporting on progress in the implementation of their programmes despite the existence of an institutional framework for this purpose" (Malawi Stakeholders' Workshop, June 2015).* On the other hand, in some instances, local councils do not clearly communicate their plans in the sector, as the Lilongwe Water Aid representative reported: *"We had a plan to drill a borehole and went ahead with the project only to learn that government had plans to drill a borehole in the same area. When the government contractor came and noticed we had drilled a borehole, he simply proceeded to drill another one only 20 metres from ours. This denies people in surrounding areas access to water as the facilities are not equally distributed"* (Representative, Lilongwe Water Aid).

As a result of a lack of coordination, some areas have access to more than one water provider, while others remain underserved or unreached and due to a lack of information sharing among water providers.

Vandalism and Ownership of Water Facilities

A representative of Mzuni Centre of Excellence for Water and Sanitation expressed concern with the widespread culture of vandalism and theft of water facilities, which means that communities enjoy water facilities for a short period of time and financial investment is wasted. The Water Missions International representative reported that "*vandalism and theft are giving us a headache to the extent of resorting to shallow wells…*" Due to this problem, organisations have had to include security in their portfolio which has greatly increased the overall costs. The issues of vandalism and theft require further reflection as they are perhaps closely linked to a limited sense of community ownership of water facilities.

Hygiene Village, Water for People and Water Development and Sanitation Trust Plan Malawi, reported problems of ownership and management of water points by communities.

Community members expect water providers to take care of the facilities they construct, and as evidenced by the representative from Mary's Mission Shallow Wells, when boreholes are not working, community leaders call the organization saying *"your borehole has developed a fault and is not functioning"*. In most cases, the problems encountered do not require considerable resources to be fixed but they are not attended to, despite water providers training communities in the management of water points.

A representative from Malawi Red Cross Society noted that *"politicians who go out and talk about the fact that water is free and that they will actually bring it to communities for free…and when we come with our projects and ask communities to … contribute a little something towards sustaining water supply…it becomes contradictory" (Stakeholders' Workshop, June 2015)*. It would seem that while water is in great demand, communities are hesitant to take on more responsibility of the water facilities to guarantee their availability on a sustainable basis. This could be due perhaps to a lack of participatory approach to project implementation, coupled with a culture of dependency, instigated by politicians.

3.2 Zambia

There are five major groups of social actors involved in water provision in the country; the public sector (government), NGOs, civil society and faith-based organisations, the private sector and donors.

3.2.1 Structure and nature of relationships of the various social actors

There is a complex multi-interactive relationship between the social actors in the sector.

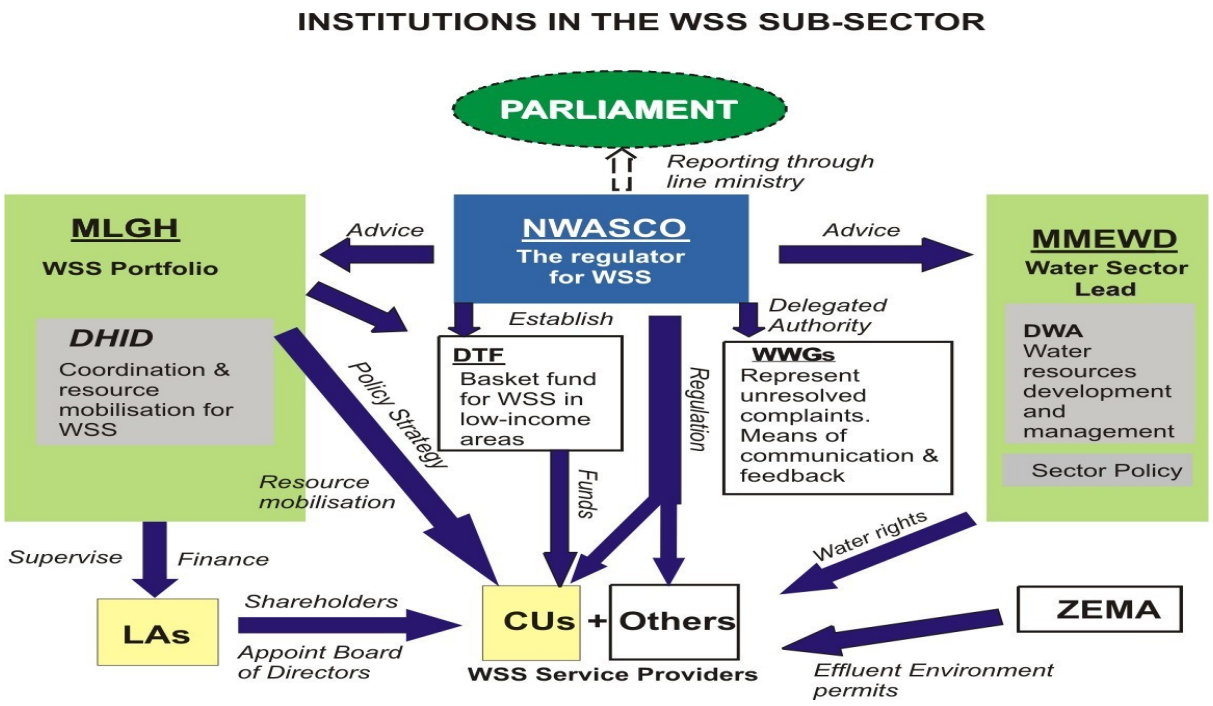

Figure 1: Organisational Structure showing the level of interactions of social actors in Zambia (NWASCO, 2014).

Figure 1 illustrates that the relationships and responsibilities amongst various social actors in the water sector present a top-heavy structure with few organisations involved in actual water provision. Consequently, it would seem that a disproportionate amount of limited financial resources would have to be allocated to sustain the structure instead of developing water supply infrastructure and functional human capacity required to achieve sustainable universal water access.

In addition to the challenges identified above, among which is the top-heavy and complex organisational arrangement in the sector, a number of other issues also exist and are discussed under the subtitles of environmental and governance challenges.

The Public Sector

The public sector social actors include the government at all levels, as well as its institutions with interests and responsibility in the water sector. At national level, the Ministry of Energy and Water Development and the Ministry of Local Government and Housing are responsible for the management of water resources in Zambia.

The Ministry of Energy and Water Development is responsible for the development and management of energy and water resources in a sustainable manner for the benefit of the

people of Zambia. The Ministry's portfolio functions includes electricity, water policy; and water resources management and development.

The Ministry of Local Government and Housing, in short MLGH on the other hand is multi-functional in nature and oversees the implementation of delegated functions and responsibilities by the local authorities by managing the social, economic and political spheres of governance. The Ministry is responsible for among many other things the delivery of the water supply and sanitation services. The government regulates activities in the sector through the National Water Supply and Sanitation Council (NWASCO). Local Authorities have created partnerships and joint venture enterprises known as the Commercial Water Utilities (CUs) to deliver water services (ZVAC, 2010; NWASCO, 2014).

NGOs

Local and international NGOs in Zambia are key players in the water sector. They play an active role in community water provision. Among the most visible NGOs active in the water sector in Zambia are the following; The Water and Sanitation Association of Zambia (WASAZA) Child Fund, WaterAid and Village Water. Others are World Vision, Care International, and the International Red Cross Society.

Faith Based Organisations

Zambia is a predominantly Christian Nation. Being a Christian nation, the country has a significantly high number of FBOs engaged in various welfare activities of which provision of water and sanitation services is among the major activities. Faith-based Organisations (FBOs) have invested much time gaining the trust of the people with whom they engage, to the extent that they could exercise considerable influence in water provision (World Council of Churches, 2007). Among the FBOs in Zambia providing water and sanitation services include Churches Health Association of Zambia (CHAZ) The Catholic Church through its wide network of church organisations affiliated to the church, The SDA church, Harvest Help Zambia, Living Waters Ministry among many others

Private Sector

Social actors in the private sector include commercial entities involved in the supply of water to households in various forms. There are approximately 53 private commercial enterprises

that supply packaged water across Zambia. The most notable of these is Manzi Water, which supplies about 840,000 litres of water per day. In addition, seven other corporate entities, whose primary line of business is not water supply, are licensed to supply water to their employees (NWASCO, 2014).

Donors

There are a number of bilateral and multilateral donor agencies and organisations that contribute to the funding of the water sector in Zambia. These donors account for most of the funds utilised in the provision of water. They include the World Bank, United Nations Development Programme (UNDP), the UK Department for International Development (DFID), Finnish International Development Agency (FINIDA), Germany International Cooperation (GIZ), United States Agency for International Development (USAID) and the Scottish government. Others Oxfam, Zambia Institute of Environmental Management, the Nature Conservancy, ActionAid and the World Wide Fund for nature. (WWF),

3.2.2 Environmental Challenges

Peri-urban, Urban and Rural Water Access

The challenge countywide is how to move beyond boreholes to guarantee piped water in every household. Currently, commercial utilities operate in urban areas and to a lesser extent in peri-urban areas. Rural communities are dependent on social actors who are only able to offer boreholes or hand-dug wells (NWASCO, 2014).

Granted that the dispersed settlement nature of most villages renders piped water supply a considerable logistic and economic challenge, having water points connected to households or within reasonable distance of residences would have far-reaching impacts. One of these impacts would be empowering women, especially young girls, who are disadvantaged in their ability to participate in both the economic and socio-political progress of the country due to the current approach to water provision. Evidence confirms that young women miss out on education because of the challenges associated with water access in households (UNIFEM, 2009; Asaba et al., 2013; JMP, 2015).

Deforestation and Poverty

As a result of widespread and persistent poverty in the country families have to resort to unsustainable logging practices and other activities which result in deforestation (Nobre et al., 1990; Samii et al., 2014). This is affecting the environment which in turn reduces the amount of accessible ground water available. From field interaction with social actors it emerged that deforestation has been exacerbated by unsustainable agricultural practices due to limited employment options and lack of awareness within communities.

3.2.3 Governance Challenges

Ownership

A sense of ownership of water supply infrastructure affects public attitudes to its use and the security of water facilities (Noga and Wolbring, 2013; Uguru, 2014). Water-related community-based projects in the country have presented a wide range of challenges, one of which is choice of location, which usually occurs without active participation of the communities. Consequently, there is a lack of community sense of ownership, responsibility and sustainability of the water supply infrastructure.

The interference of politicians and village leaders in the allocation and implementation of water points has also been a cause for concern. In some instances, the issue of maintenance and cost for repairs has also caused friction in communities, some of whom believe that the organisations which install the water points should maintain them. While on the one hand some communities are willing to contribute financially to sustain the water points, there are people are living in poverty, who are unable to contribute.

Private sector

It is government's responsibility to guarantee the provision of and access to safe water for all citizens (UNEP, 1992). However, the private sector plays a crucial role in the provision of water, given the current context of government's inability to guarantee universal safe water access in the country (JMP, 2015). Furthermore, in dealing with the private sector, the issue of profit has to be considered and would require a robust mechanism of public monitoring and evaluation. In this regard, the role of the private sector requires further debate about its place and the nature of its involvement in this sector.

Lack of adequate funding and over-reliance on donors

In general, financial commitment from external donors and NGOs seems to indicate that they have more interest in investing in the water sector than the government, to the extent that it could be argued that safe water access is not a national priority for Zambia. In 2002, the government allocated only 2% of the total amount expended in the water sector, equivalent to US$ 6.1 million, of which a meagre 9% was released. The other US$ 32.5 million, or 98% of the sector funding, came from external donors and NGOs (Mabande, 2012). More recently, in 2014, allocation to the sector was less than 1% of the total national annual budget, a decrease from 2.4 % in 2013 (Civil Society for Poverty Reduction - CSPR).

This continuous decline in allocation to the water sector should be a source of concern, given its influence in other aspects of socio-economic outcomes. At the moment, 35% of the country's population does not have access to safe drinking water, against the MDG target of 25.5% (JMP, 2015).

3.3 Reflections on crosscutting themes

3.3.1 Over-reliance on foreign donors

In both Malawi and Zambia there is a heavy and perhaps unhealthy dependency on external funding to support the water sector. Both governments invest extremely small amounts of their annual budgets in the water sector. In Malawi, development partners contribute approximately 71% with the remaining 29% coming from national allocation (WES Network, 2013). In Zambia, water-related investments between 2006 and 2010 was 0.6% of total government expenditure, the remaining amount relied on donors (UN-Water Zambia, 2013). This could indicate a lack of commitment and prioritisation of governments in relation to their citizens' human right to water. It would seem that governments have come to expect that donors will supplement the necessary financial needs of the sector.

Another argument against the over-reliance on foreign donors is that donor funding is volatile because it depends on the political and economic context of the donor country. For example, the financial downturn of 2008 resulted in a reduction of aid to poorer countries, some of which had become dependent on foreign aid to fund essential social services such as water provision (Dang et al, 2010; Gurtner, 2010). The economic downturn also had an effect on

NGOs and other organisations that depend on the public to sustain their activities (Ogutu and Mang'Unyi, 2011). Furthermore, prevailing public opinion in the donor countries has an influence on donor contributions. If there is a feeling of aversion in the donor country towards any particular aspect of the recipient country, it can have a direct effect on the financial support for that particular country or sector. An example was when the Ugandan government recently passed anti-gay legislation which provoked unfavourable opinion in Western donor countries leading to the suspension of aid contributions (Plaut, 2014).

In the short to medium term, there may well be a crucial role for donors in the sector to provide water. However, in the long term, the strategy for sustainable water access in both countries will require that people become aware of their right to water and challenge the culture of dependency on conditional external interventions.

3.3.2 Problem of Structure and Coordination

In both Malawi and Zambia, the water sector lacks an appropriate organisational structure and coordination which could foster efficient use of resources. An initial problem is that the current structures do not attend to the core function of water provision. As a consequence, different organisations engage with water access and provision in a disconnected and disjointed manner.

In Malawi and Zambia, there are structures in place which focus on decentralisation. The decentralisation process is not fully operational and continues to present characteristics of unnecessarily heavy bureaucracy to the extent that a considerable amount of resources are expended to sustain the structure. This debilitates the possibility of investing in necessary infrastructure required to achieve the sustainable development goal of universal access to water. Consequently, these services become dependent on non-public institutions which implement their initiatives according to their own agendas and resources.

3.3.3 Governance and Ownership

In both Malawi and Zambia, ownership of water points in communities is an ongoing challenge which involves politicians, traditional leaders and communities. The interests of these three categories are not always reconcilable. All three relate to the issue of control over the water points and each has a particular vision of how this should occur. Politicians and traditional leaders have an interest in affirming their authority and continuing as leaders,

which at times conditions local communities' access to water. Communities, on the other hand, are not united in their approach to water sustainability. In some cases theft and vandalism have been noted, which, according to the data, indicates a lack of sense of ownership.

Both the government and non-public organisations engaged in the water sector have been unable to respond appropriately to the issue of community ownership of water points. The concept of ownership from a cultural perspective is complex (Gylfason, 2010; Noga and Wolbring, 2013). However, as a minimum, ownership requires active participation in the conception, execution and sustainability of the projects (Olukotun, 2008). It would seem that communities are engaged in a peripheral way when dealing with the installation of water points in their area, and are consequently unable to see themselves as the owners of such facilities.

4. Conclusions and Recommendations

In the rural areas of Malawi and Zambia the provision of water is generally through drilling boreholes or wells. This form of water provision is a response to population density and settlement patterns where households are more spread out, rendering monitoring and control of water quality more difficult. In the urban and peri-urban areas, higher population density makes it easier to provide water through pipelines, as well as facilitating monitoring and quality control. Therefore, in the case of rural water provision, it would seem to be worth considering the possibility of installing independent scalable piped water systems in villages.

Piped water would also reduce considerably the burden on women as the main collectors of water in households. It would also facilitate the possibility of increased access of women to education. Availability of water will also increase the potential for creating new forms of subsistence and employment thus reducing the need for deforestation as a means of survival. Through increasing access to water more people will be able to attain a better quality of life.

Complex and confusing structures for water resource allocation and management are undermining efforts for better water access in these countries. The ongoing decentralisation process could be a contribution to dismantling the top-heavy structures currently in place, and could contribute to ensuring that those who make decisions in the water sector are directly in contact with water users. This process is an opportunity to involve more local communities actively in decisions regarding provision and access to water in their localities. The necessary

financial support will have to be made available to guarantee the achievement of the decentralisation process. Ownership of public resources will require investment in the creation of a new perception of rights and responsibilities both in the public sector and in communities, accompanied by training and capacity building to guarantee the sustainability of water access.

Governments in both countries need to have a coherent policy and strategy in place to achieve universal access. The allocation of public funds should show that the government is prioritising the human right to water. Achieving financial sustainability in the sector is crucial to counter the over-reliance on foreign financial support for activities in the sector.

Based on these conclusions, the paper recommends that a coordinated and strategic approach in the sector should be adopted. This strategic approach would entail the creation of a countrywide database of the water situation in each country under control of the respective government; prioritising areas most in need of water provision; controlled and coordinated intervention of external donors and a governance approach which guarantees the involvement of each community in the decision-making processes around water access. To complete this strategic approach, regular maintenance and ongoing water quality monitoring would be crucial. This approach will minimise conflict between social actors involved in the provision of water and will promote more collaboration needed to respond to the challenges of water access and more effective governance in the sector. The maintenance of the water supply in different areas can prove to be problematic due to social mobility. It would seem that to guarantee continuity in any form of maintenance of water supply systems, there would have to be an investment which would go beyond the simple training of people to maintain water points. This investment would incorporate financial management sessions to pay for the upkeep of the water supply; education sessions on people's rights and discussions around traditional gender role distribution, public health, local environment, climate justice and how to engage in alternative forms of wealth generation.

The adoption of boreholes as the main source of water supply would need to be revisited as it would seem from the current state of water provision that it is not a long-term sustainable option. A strategic sustainable solution would have to secure safe water in every household, while eliminating the undue burdens associated with accessing water. In so doing, the issue of women bearing the burden of water collection would be alleviated while achieving the universal human right of all citizens to a safe and sustainable water supply.

In order to tackle the problem of ownership and its consequences, a long-term intervention in terms of civil education would be required. Consequently all organisations, whether public or non-public, need to incorporate in their programmes a contribution towards a new paradigm of public perception of ownership as tax payers and citizens.

Finally, solutions to the water access challenge in these countries should be part of a broader socio-economic development model which promotes awareness around rights and responsibilities in relation to all forms of life. This model should promote economic development with environmental sustainability together with financial and technical support for communities in both rural and urban areas. In order to guarantee long term sustainability the active involvement of communities and other social actors in water governance would be fundamental to guarantee water for all.

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6. Declaration of interest

The authors declare that there is no conflict of interest affecting the content of this paper.

7. References

Asaba, R.B., Fagan, G.H., Kabonesa, C., Mugumya, F., 2013. Beyond distance and time: Gender and the burden of water collection in rural Uganda. *WHO Journal of Gender and Water 2, 1, 31-38.*

Barlow, B.M., Clarke, T., 2004. Blue Gold: The Fight to Stop the Corporate Theft of the World's Water. *Human Ecology Review 11, 67–71.*

Childfund International., 2011. Overview of Zambia, Volume 508. Retrieved July 12, 2016 from *https://www.childfund.org.au/sites/default/files/publications/ChildFund-Zambia-Country-Field-Report-FY12.pdf.*

Dang, H., Knack, S., Rogers, H., 2010. How Financial Crises in Donor Countries Affect Aid. New York, USA.

DWAF, 2009. Water for Growth and Development in South Africa. Retrieved July 13, 2016 *from https://www.dwa.gov.za/wfgd/documents/wfgdv6nov21.pdf.*

Gilbert, E., 2012. "Water Policy: The World's Most Important Resource Politicized". CMC Senior Theses. *Paper 520. Retrieved 14.07.2016 from http://scholarship.claremont.edu/cmc_theses/520.*

Gylfason, T., 2010. Natural Resource Endowment: A Mixed Blessing? *Resources and Environmental Economics* 3353, 1–39.

Gurtner, B., 2010. The Financial and Economic Crisis and Developing Countries, International Development Policy | Revue internationale de politique de développement [Online]. Retrieved 08 July 2016 from: *http://poldev.revues.org/144* ; DOI : 10.4000/poldev.144.

Harvey, P.A., 2004. Borehole sustainability in rural Africa: An analysis of routine field data, in: Proceedings of the 30th WEDC Conference, Vientiane, Lao PDR. Loughborough University.

Henriksen, H. 1995. Relation Between Topography and Well Yield in Boreholes in Crytalline Rocks, Sogn og Fjordane, Norway. *Ground Water*, *33*(4), 635–643. Available from http://info.ngwa.org/gwol/pdf/952061800.PDF

IDA, 2010. Water Resources: Improving services for the Poor. IDA at Work: Water Resources [Online]. Retrieved June 16, 2016 from http://goo.gl/wva9Aa.

JMP, 2015. 2015 Update and MDG Assessment [Online]. The WHO and UNICEF, Switzerland. Retrieved July 2, 2016 from http://goo.gl/3bXafz.

JMP, 2014. Progress on Drinking-Water and Sanitation 2014 Update [Online]. The WHO and UNICEF, Switzerland. Retrieved July 01, 2016 from http://goo.gl/32o6HK.

Mabande, P., 2012. Water supply and sanitation in Zambia: Facts and Figures. Sustainable Sanitation and Water Management, Zambia [Online]. Retrieved June 17, 2016 from http://www.sswm.info/content/facts-figures.

Shukla, J., Nobre, C., Sellers, P., 1990. Amazon Deforestation and Climate Change. *Science* 247: 1322-25. Available from https://goo.gl/nrzSiZ.

Noga, J., Wolbring, G., 2013. Perceptions of water ownership, water management, and the responsibility of providing clean water. Water (Switzerland) 5, 1865–1889. Available from doi:10.3390/w5041865.

NWASCO, 2014. Urban and Peri-Urban Water Supply and Sanitation Sector Report 2014. Lusaka, Zambia [Online]. Retrieved on July 25, 2016 from http://goo.gl/fjeBXu.

OECD, 2015. OECD Studies on Water Stakeholder Engagement for Inclusive Water Governance. Paris, France. Available from doi:http://dx.doi.org/10.1787/9789264231122-en.

Ogutu, C.; Mang'Unyi, E.E., 2011. The Effect of Global Economic Crisis on Service Delivery in Selected Non-Governmental Organizations in Kenya. *Journal of Management*

and Strategy 2, 101. Available from doi:10.5430/jms.v2n4p101.

Olukotun, A.G., 2008. Achieving Project Sustainability through Community Participation. *Journal of Social Sciences* 17, 21–29.

Perkins, A., 2008. Water debate: are boreholes sustainable? The Guardian, London, UK [Online]. Retrieved June 01, 2016 from https://goo.gl/DR2dEl.

Plaut, M., 2014. Uganda donors cut aid after president passes anti-gay law. The Guardian, London, UK [Online]. Retrieved on June 6, 2016 from http://www.theguardian.com/global-development/2014/feb/25/uganda-donors-cut-aid-anti-gay-law.

Priscoli, J.D., 1999. Water and civilization : using history to reframe water policy debates and to build a new ecological realism. Water Policy 1, 623–636.

Samii, C., Lisiecki, M., Kulkarni, P., Paler, L., Chavis, L., 2014. Effects of Payment for Environmental Services (PES) on Deforestation and Poverty in Low and Middle Income Countries : a Systematic Review. Journal of the Collaboration for Environmental Evidence. 1–42. doi:10.4073/csr.2014.11.

Shah, A., 2010. Water and Development. Global. Issues [Online]. Retrieved August 4, 2016 from http://www.globalissues.org/article/601/water-and-development.

Uguru, O.P., 2014. Improving Access to Water and Sanitation via Effective Community Engagement: Study of Urban Abakaliki, Nigeria. Glasgow Caledonian University, Scotland.

UN, 2010. Unsafe water kills more people than war, Ban says on World Day. UN News World Water Day 2010 [Online]. Retrieved June 10, 2016 from http://www.un.org/apps/news/story.asp?NewsID=34150#.VVm60PldUlI.

UNEP, 1992. Agenda 21: Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources. Retrieved July 14, 2016, from http://goo.gl/O7fk6u.

UN OHCHR, 2010. Climate Change and the Human Rights to Water and Sanitation. United Nations Office of Nations High Commission for Human Right, Geneva, Switzerland [Online]. Retrieved June 15, 2016 from http://goo.gl/At5PGK.

UNIFEM, 2009. Progress of World's Women. Who Answers to Women? Gender and Accountability. United Nations Development Funds for Women, New York [Online]. Retrieved June 26, 2016 from http://goo.gl/iz3gWe.

UN-Water, 2013. International Year of Water Cooperation. Retrieved July 25, 2016 from http://www.unwater.org/water-cooperation-2013.

UN-Water Zambia, 2013. UN-Water Country Brief- Zambia. Lusaka. Retrieved June 17, 2016 from http://goo.gl/OKh3lv.

Village Water, 2015. 2015 Annual Review. Retrieved July 8, 2016 from *https://villagewater.org/annual-report/*.

WaterAid, 2014. Annual Report and Financial Statements (2013-14). Retrieved July 20, 2016 from http://www.wateraid.org/uk/who-we-are/annual-reports.

WES Network 2013. Water Sector: A Marginalised Priority: Declining Levels of Financing in the Water, Sanitation and Hygiene (WASH) Sector in Malawi. Lilongwe. Retrieved July 7, 2016 from *http://goo.gl/adSqu2*.

World Council of Churches, 2007. Statement of the Conference "Churches for Water in Africa." Retrieved July 8, 2016 from https://goo.gl/AYqkAG.

WPP, 2010. Water Sector Governance in Africa Water, Volume 1: Theory and Practice. Available from doi:978-9973-071-48-4.

ZVAC, 2010. 2010 In-Depth Vulnerability and Needs Assessment Report [Online]. Retrieved June 10, 2016 from http://goo.gl/E23Kl2.

8. List of Acronyms

ADB	African Development Bank
CADECOM	Catholic Development Commission of Malawi
CCJP	Catholic Commission for Justice and Peace
CHAZ	Churches Health Association of Zambia
CSOs	Civil Society Organizations
CUs	Commercial Utilities
DFID	Department for International Development
DHID	Department of Housing and Infrastructural Development
DTF	Devolution Trust Fund
EU	European Union
FAO	Food and Agriculture Organization
FBOs	Faith Based Organizations
FINIDA	Finnish International Development Agency
GIZ	Germany International Cooperation
LAs	Local Authorities
MGD	Millennium Development Goal
MMEWD	Ministry of Mines, Energy and Water Development
MLGH	Ministry of Local Government and Housing

NGOs	Non-Governmental Organizations
NWASCO	National Water Supply and Sanitation Council